AN EXPLORATORY STUDY AMONG VALUES, INTELLIGENCE, AND OTHER VARIABLES

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by

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ABSTRACT

Problem: Significant differences have been found in IQ scores for different cultural groups. These might be explained by their value systems. Values could act as disposing tendencies to either enhance or limit a person in developing different problem-solving abilities. If IQ tests measure the ability to solve problems, there should be a significant positive or negative correlations between IQ scores and values.

Method: A total of 174 male high school seniors were given the Allport-Vernon-Lindzey test, Otis test, and a personal questionnaire form.

Results: No significant results were found between values and intelligence. Significant results were found between personal data categories and IQ scores and A.V.L. scores.

Conclusion: Values as measured by A.V.L. do not seem to act as strong environmental influences upon intelligence.

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CHAPTER I

THE PROBLEM

Large significant differences have been found between intelligence test scores for different ethnic groups. For example, (Anastasi, 1958, pp. 550-564) it has been found that mean intelligence scores correspond to the rise in socioeconomic class, that Negroes' IQs are significantly lower than whites', that American Indian group means on the DuBois Draw-a-Horse "culture free" intelligence test were significantly higher than the white norms, that Jewish children excel on the verbal part of intelligence tests, etc.

These differences have been typically explained by socio-cultural environmental influences. Recently, however, (Jenson, A., 1969) geneticists have used the data on Negro performance on IQ tests to support their hypothesis of the innate genetic inferiority of Negroes. Typically, minority ethnic groups score about twenty points below the mean set by the white middle class.

Even though this writer holds the point of view that at different times environment and heredity interact with different relative strengths, he believes that it is desirable to search for environmental causitive variables which may be manipulated in experimental studies.

Toward that end, the author proposes that one of the components of the multienvironmental milieu which has an effect on one's ability to achieve on IQ tests, is the value system emphasized during socialization.

It is hypothesized that values could act as disposing tendencies to either enhance or limit a person in developing different types of problem-solving abilities. If IQ tests measure the ability to solve problems, it would appear logical to suppose that there will be a significant positive or negative correlations between IQ scores and value patterns.

Values are tentatively defined as a cultural set toward solving problems which are ingrained in the individual in such a way that they act as a determining tendency, or an a priori statement of the situation that leads to unconscious orienting sets towards problems so as to effect the individual's method of attack on problems in his endeavor to solve them.

CHAPTER II

METHOD

To test my hypothesis it was necessary to obtain an instrument that could be used on a heterogeneous sample and which measured major universal values with a great deal of reliability and validity. The Allport-Vernon-Lindzey "A Study of Values" (AVL) based on Spranger's six universal types (theoretical, economic, aesthetic, social, political, and religious) seemed to meet my basic requirements since it has shown a high degree of reliability and validity (Allport, G., Vernon, P., & Lindzey, G., 1951; Buros, O., 1953, p. 92).

The AVL has been extensively used on college students. College students, unfortunately, are a rather homogeneous group in terms of intelligence. However, a survey of the literature seems to indicate that certain value pattern exist for very bright adults and high academic achievers in college. (Duffy, E., & Crissy, W.J.E., 1940; Warren, J.M., & Heist, P.A., 1960) For example, in a recent study (Southern, M.L., & Plant, W.T., 1968) it was found that Mensa members (to join you have to score in the top two percent on an intelligence test) scored significantly higher on the AVL from the norm means on Theoretical scale and Aesthetic scale. These studies seemed to support a point of view that my hypothesis should be tested.

The question was raised regarding use of the AVL on a high school population in order to meet the requirement of a heterogeneous sample and yet, still maintaining its validity and reliability. Fortunately studies with the AVL had been conducted on a limited bases at the high school level. (Traxler, A. & Vecchione, N., 1959; Nolan, E., Bram, P. & Tillman, K., 1963) These works, in general, found that the mean scores were comparable to the college norms.

Next, E chose the Otis Quick Scoring Mental Abilities test because it is an established and reliable test.

The questionnaire which E used was first tested on about thirty-five college students randomly solicited to assist in evaluating the problem areas that E might encounter. An example of the revised questionnaire may be found in Appendix A.

My samples were taken from male seniors who attended Northwest Cabarrus High School (a rural school) and A.L. Brown High School (a city school). These two schools are located in or near Kannapolis, North Carolina. Kannapolis has a population of about 39,000 people and lies in about the middle of the strip-city complex from Raleigh, North Carolina to Atlanta, Georgia.

The testing situation at Northwest Cabarrus was structured in the following manner: in one continuous testing session, the AVL "Study of Values" was administered to Ss, then the Otis Quick Scoring Mental Abilities Test, and thirdly, the

personal questionnaire form was administered to all male seniors present at the school on Tuesday morning January 20, 1970. The total number of Ss was 94.

The testing situation at A.L. Brown High School was structured in the following manner: Ss who had "volunteered" were tested during their study hall period over two testing periods on a Monday and Tuesday, January 26 and 27, 1970. The Otis test was administered Monday, and the AVL test and questionnaire on Tuesday. Ss totaled 92 for the IQ test, but only 81 showed up for the AVL on the next day.

CHAPTER III

RESULTS

The mean and standard deviation on the IQ test and each value for the North west Cabarrus High School Ss are presented in Table 1.

Table 2 presents the mean, and standard deviation on the IQ test and each value for the A.L. Brown High School Ss.

A t-test was run on the data between the rural and city schools on IQ and each value. The null hypothesis was tested. The data in Table 3 allows us to accept the null hypothesis. Therefore, there is no significant difference between the rural and city samples' means except as would be expected by chance.

Table 4 presents the mean scores on the IQ test and AVL for both high schools.

A correlational study between IQ and each value was run on the data. The results are presented in Table 5. The null hypothesis was not rejected. It should be noted that the positive correlation between IQ and values on the economic value and political value was very close to being significant at the .05 level of significance. This small trend cannot, however, be considered to be a strong causative factor hypothesized in Chapter I.

Since Nolan, et. al. provided the basic data performance on their Ss AVL scores, it seemed appropriate to check

to see if there were significant differences regionally on the AVL at the high school level. The results are provided in Table 6. The hypothesis adopted was the null hypothesis. According to the t-test values, the null hypothesis was rejected on the theoretical value and the social value. The null hypothesis was accepted on the rest of the values. The E's Ss had a significantly lower mean on the theoretical value (.001 level of significance) and a higher mean on the social value (.01 level of significance). These differences may be a product of the times and/or regional differences.

Table 7 presents the basic data for the values on the AVL for the Negro Ss and their scores on the IQ test. The results of a t-test on each score for the Negro group as compared to the group norms (established by the total Ss taking the AVL) is presented in Table 8. According to the t-test values the null hypothesis must be rejected on intelligence and the social value, and accepted for the rest of the values. Negro Ss had a significantly lower mean on intelligence (.001 level of significance) and a higher mean on the social value (.05 level of significance).

Table 9 presents the mean and standard deviation for those who answered "yes" to the question, "Are you planning to go to college?" on the AVL. Table 10 presents the mean and standard deviation for those who said "no" to the same question.

A t-test was computed between these categories. The null

hypothesis was rejected for the political value, and accepted for the rest. The data is presented in Table 11. Ss who answered "yes" had a significantly higher mean on the political value (.05 level of significance).

Values may be viewed as positive or negative orienting vectors to the psychological environment. One of the influential psychological environments for adolescents is the high school. The main objective of a high school is to educate its students in a multitude of academic subjects. If values as measured by the AVL are of any significance to an individual, it seems possible that they may orient an individual toward certain subjects, or the interest in a subject may increase the strength of a value. In other words, either way, there should be significant relationships between academic subjects and values. To test this possibility the E asked the Ss, "What was your most interesting course in school?" Their answers were categorized. The only requirement for these categories was that they have at least ten Ss, and that they be interrelated in some similar characteristics. The E's subjective choices may be rationally criticized by others, however. It should be noted that all of these categories were compared against the norms established by all Ss. The first category consists of those Ss who answered that their most interesting course in school was art, dramatics, speech, band, chorus, English, and English literature. Table 12 presents the means and standard deviations for this category.

Table 13 presents the t-test data run between this category and the norms. The null hypothesis is rejected for the aesthetic value and accepted for the others. Ss for this category had a significantly higher mean on the aesthetic value (.001 level of significance).

The second category consists of those Ss who answered that their most interesting course was biology. Table 14 presents the means and standard deviations for this category. Table 15 presents the t-test results. The null hypothesis is accepted for all situations.

The third category consists of those Ss who answered that their most interesting course was chemistry, physical science, science, physics, and electronics. Table 16 presents the means and standard deviations for this category. Table 17 presents the t-test results. The null hypothesis is rejected for IQ and the theoretical value, but accepted for the rest of the values. Ss for this category had a significantly higher mean on intelligence (.01 level of significance) and a higher mean on the theoretical value (.05 level of significance).

The fourth category consists of those Ss who answered drafting. Table 18 presents the means and standard deviations. Table 19 presents the t-test results. The null hypothesis is rejected for the theoretical value and accepted for the rest. Ss for this category had a significantly higher mean on the theoretical value (.05 level of significance).

The fifth category consists of those Ss who answered U.S. history, world history, and modern history. Table 20 presents the means and standard deviations. Table 21 presents the t-test results. The null hypothesis is rejected for the political value and accepted for the other situations. Ss for this category had a significantly higher mean on the political value (.05 level of significance).

The sixth category consists of those Ss who answered math, algebra, and geometry. Table 22 presents the means and standard deviations. Table 23 presents the t-test results. The null hypothesis is accepted for all situations.

The seventh category consists of those Ss who answered psychology, sociology, family living, government, and economics. Table 24 presents the means and standard deviations. Table 25 presents the t-test results. The null hypothesis is accepted for all situations.

The eighth category consists of those Ss who answered auto mechanics, industrial cooperative training, distributive education, typing, textiles, and air conditioning. Table 26 presents the means and standard deviations. Table 27 presents the t-test results. The null hypothesis is accepted for all situations.

The ninth category consists of those Ss who answered agriculture, bricklaying, carpentry, physical education, and none. Table 28 presents the means and standard deviations. Table 29 presents the t-test results. The null hypothesis is rejected for IQ and accepted for the values. Ss for this

category had a significantly lower mean on intelligence (.05 level of significance). In conclusion, for the categories one, three, four, and five the E's hypothesis was confirmed that the AVL would be sensitive to the Ss perferences to their academic environment. Others are encouraged to further check these findings in a more refined manner and speculate on the reasons for these specific differences.

Using the two questions, "What position in your family are you relative to your brother(s) and sister(s)?" and "How many brothers do you have? _____ Sisters? _____.", the E divided the Ss into oldest child, intermediate child, and youngest child. The means and standard deviations for the oldest children is presented in Table 30; for the intermediate, Table 31; and youngest, Table 32.

Next the E used ANOV to determine any significant differences between IQ scores and values in terms of sibling relationship (Tables 33 through 39). The null hypothesis is accepted for all situations.

Using the data provided by Ss on parent's occupation and education, the E calculated the Ss' Index of Social Status based on the Hollingshead scale. (McGuire and White, 1955) Then the E categorized Ss according to social class. The means and standard deviations for each class is presented in Tables 40 through 43. Next the E used ANOV to determine any significant class difference among the categories for each situation.

Significant class differences were found in IQ scores (.01 level of significance) and the political value (.05 level of significance). Results are presented in Tables 44 through 50. The null hypothesis is accepted for the others.

Table 51 presents the correlations calculated among the Index of Social Status, as determined by the Hollingshead scale, each value, and the IQ scores. Significant positive correlations were found between social class and intelligence, the economic value, and the political value. In other words as social class increases from a low to a higher status for Ss, there is a corresponding increase for these Ss scores on the intelligence test, the economic value, and the political value. A significant negative correlation was found between social class and the social value. In other words as social class increases from a low to a higher status for Ss, there is a corresponding decreasing for these Ss scores on the social value.

Table 52 presents partial correlations calculated between IQ and values with social class held constant. The null hypothesis is accepted.

Table 53 presents the correlations between the values. It should be remembered that it is not correct or appropriate to calculate inter-correlations on a forced choice test.

The E categorized the Ss according to their performance on the IQ test. The top 27% and the bottom 27% were then selected. Tables 54 and 55 presents the means and standard deviations for

the top 27% and the bottom 27%. Table 56 presents the t-test results between these two groups. The null hypothesis is accepted.

Next the Ss were categorized according to their performance on the IQ test. The +1.5σ and above scores, and the -1.5σ and below scores on the IQ scale were selected. Table 57 presents the means and standard deviations for the +1.5σ and above scores. Table 58 presents the same for the -1.5σ and below scores. Table 59 presents the t-test results between these groups. The null hypothesis is accepted. However, it should be noted that the political value would be significant with a one-tail test.

CHAPTER IV

DISCUSSION

The E was surprised that the data did not support the proposed hypothesis. The E proposes that further study should be made before the proposed hypothesis be completely rejected. A study using the AVL and an achievement test might be fruitful. A new values test could be developed to measure middle class values and lower class values. This new instrument might give positive results. If these efforts and others fail, suspicion would be cast on the use of values in sociology as a mechanism to explain the differential achievement performances for the social classes. If they are successful, others should be encouraged to explore methods to change values and to examine any changes in behavior that occur as a result of these changes.

As for the significant findings among IQ's, values, and the questionnaire form, the E did not have prior expectations about the results. Even though the E finds some of the results very interesting, the E is not qualified to speculate on the reasons for these results.

APPENDIX A

QUESTIONNAIRE FORM

CONFIDENTIAL
PRESONAL QUESTIONNAIRE FORM

E:_____ _____ _____
FIRST MIDDLE LAST

RESS:_____(house number and street)
_____(city)

EPHONE:_____

EROOM TEACHER:_____

TH

E:_____ _____ _____ AGE:_____ _____
day month year years months

NIC GROUP or RACE: ( ) White ( ) Negro, other _____

IGIOUS AFFILIATION or DENOMINATION: ( ) Baptist, ( ) Catholic, ( ) Lutheran
Methodist, ( ) Presbyterian, ( ) none, other _____

you planning to go to college? ( ) yes ( ) no

t was your most interesting course in school? _____

e you attended other high schools? ( )yes ( )no, If so in what state _____

t would you estimate your total high school grade average to be? _____%

t position in your family are you relative to your brother(s) and sister(s)?
oldest ( ) 2nd ( ) 3rd, other _____

many brothers do you have?_____. Sisters? _____.

t is your favorite hobby or recreation?_____

ed on today's standards what starting yearly income do you hope to make?
_____. What income do you expect to make? $_____.

ease be as specific as possible)
t is your Father's Occupation?_____
t grade of public school or college completed by father_____
he graduate from high school? ( )yes ( )no

her's occupation?_____
t grade of public school or college completed by mother_____
she graduate from high school? ( )yes ( )no

le the number of the following list of classes which best represents in
opinion your family's class position.

1 Upper Upper class (old rich)
2 Lower Upper class (new rich or well to do)
3 Upper Middle class (above average)
4 Lower Middle class (almost average)
5 Upper Working class (a little poor)
6 Lower Working class (poor)

the Allport-Vernon Study of Values which do you believe you scored highest on
heoretical ( )economic ( )aesthetic ( )social ( )political ( )religious

st?
heoretical ( )economic ( )aesthetic ( )social ( )political ( )religious

APPENDIX B

TABLES

TABLE 1

NORTHWEST CABARRUS HIGH SCHOOL

Scale	Mean	Standard Deviation	# of Ss
IQ	103.3600	11.1944	94
Theoretical	41.9570	6.3848	93
Economic	43.0968	6.2925	93
Aesthetic	33.9676	6.3952	93
Social	37.0860	6.1416	93
Political	42.9946	5.9536	93
Religious	40.9946	6.8783	93

Note- 1 S scores on AVL discarded because he did not follow instructions.

TABLE 2

A.L. BROWN HIGH SCHOOL

Scale	Mean	Standard Deviation	# of Ss
IQ	102.3043	13.3500	92
Theoretical	41.2593	6.3724	81
Economic	42.2469	6.2766	81
Aesthetic	33.6173	8.1884	81
Social	37.9198	7.1801	81
Political	44.2346	6.0259	81
Religious	40.7469	6.9037	81

Note- 10 Ss did not take the AVL and 1 S's AVL data discarded because he did not follow instructions.

TABLE 3

A.L. BROWN VS. NORTHWEST

Scale	A.L. Brown	Northwest			
	σ mean	σ mean	σ diff	mean diff	t
IQ	1.40	1.16	1.50	-1.06	- .705
Theoretical	.713	.664	.975	- .698	- .71
Economic	.703	.65	.95	- .85	- .89
Aesthetic	.916	.666	1.13	- .35	- .31
Social	.805	.636	1.02	.84	.824
Political	.675	.617	.913	1.24	1.36
Religious	.773	.715	1.05	- .24	- .228

TABLE 4

COMBINED SCORES

Scale	Mean	Standard Deviation	# of Ss
IQ	102.8387	12.3208	186
IQ (with AVL scores)	103.2816	11.7491	174
Theoretical	41.6322	6.3860	174
Economic	42.7011	6.2998	174
Aesthetic	33.8046	7.2871	174
Social	37.4741	6.6585	174
Political	43.5718	6.0195	174
Religious	40.8793	6.8912	174

TABLE 5

CORRELATIONS BETWEEN IQ AND VALUES
N=174

Scale	IQ
Theoretical	+.0870
Economic	+.1423
Aesthetic	-.1266
Social	-.1010
Political	+.1421
Religious	-.1057

TABLE 6

KANNAPOLIS VS. SOUTHWESTERN CITY
N=174 N=130

Scale	Kannapolis	Southwest			
	σ mean	σ mean	σ diff	mean diff	t
Theoretical	.4857	.4288	.6479	-3.78	-5.8308***
Economic	.4737	.8708	.9913	-1.07	-1.0794
Aesthetic	.5543	.6797	.8770	- .81	- .9380
Social	.5062	.6797	.8474	2.37	+2.7881**
Political	.4560	.3812	.5943	.58	.9404
Religious	.5237	.5397	.7520	.659	.8691

**P is less than .01
***P is less than .001

TABLE 7

NEGRO SCORES

Scale	Mean	Standard Deviation	# of Ss
IQ	90.1429	11.0570	14
Theoretical	40.2857	4.9343	14
Economic	40.5714	4.3544	14
Aesthetic	33.5357	5.5565	14
Social	41.1071	5.4191	14
Political	42.6071	4.8339	14
Religious	41.8929	4.5121	14

Note - the 2 AVL scores discarded for not following instruction were taken by Negroes.

TABLE 8

NEGRO VS. NORMS
N= 14 N=174

Scale	Negro	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	3.0667	.8933	3.1941	-13.1387	-4.1134***
Theoretical	1.3685	.4857	1.4521	-1.3465	- .9273
Economic	1.2077	.4790	1.2991	-1.1297	- .6100
Aesthetic	1.5411	.5539	1.6376	- .2689	- .1537
Social	1.5030	.5062	1.5859	+3.6330	+2.2981*
Political	1.3407	.4560	1.4161	- .9701	- .6651
Religious	1.2514	.5237	1.3565	+1.0136	+ .7514

*P is less than .05
***P is less than .001

TABLE 9

GOING TO COLLEGE
"YES"

Scale	Mean	Standard Deviation	# of Ss
Theoretical	41.6529	6.4300	121
Economic	42.1322	6.2935	121
Aesthetic	33.6901	7.3828	121
Social	37.0496	7.2707	121
Political	44.4132	5.9213	121
Religious	41.0702	6.6835	121

Note - a total of 6 Ss did not answer this question.

TABLE 10

GOING TO COLLEGE
"NO"

Scale	Mean	Standard Deviation	# of Ss
Theoretical	41.6596	6.5889	47
Economic	43.3404	6.0435	47
Aesthetic	34.0319	7.0003	47
Social	38.4574	4.6093	47
Political	41.9681	5.8530	47
Religious	40.7553	7.2837	47

TABLE 11

GOING TO COLLEGE
YES VS. NO
N=121 N=47

Scale	Yes	No			
	σ mean	σ mean	σ diff	mean diff	t
Theoretical	.5870	.9715	1.1350	- .0067	- .0059
Economic	.5745	.8911	1.0602	-1.2080	-1.1396
Aesthetic	.6740	1.0321	1.5195	- .3418	- .2249
Social	.6637	.6796	.9024	-1.4078	-1.5601
Political	.5405	.8630	1.0369	+2.4451	+2.3581*
Religious	.6101	1.0739	1.2351	+ .3149	+ .2550

*P is less than .05

TABLE 12

ART-DRAMATICS-SPEECH-BAND-CHORUS-
ENGLISH & ENGLISH LITERATURE

Scale	Mean	Standard Deviation	# of Ss
IQ	106.5000	12.9903	24
Theoretical	39.9583	6.9792	24
Economic	40.2500	6.6096	24
Aesthetic	40.5417	9.0505	24
Social	37.5833	6.3832	24
Political	42.4583	4.9666	24
Religious	39.2500	7.0371	24

TABLE 13

ART-DRAMATICS-SPEECH-BAND-CHORUS-
ENGLISH & ENGLISH LITERATURE
N=24

Scale	Art, etc.	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	2.7087	.8933	2.8520	+3.2184	+1.1284
Theoretical	1.4553	.4857	1.5342	-1.6739	-1.0911
Economic	1.3782	.4790	1.4590	-2.4511	-1.6800
Aesthetic	1.8872	.5532	1.9667	_6.7371	+3.4343***
Social	1.3310	.5062	1.4240	+ .1092	+ .0848
Political	1.0356	.4560	1.1315	-1.1135	- .9639
Religious	1.4673	.5237	1.5579	-1.6293	-1.0422

***P is less than .001

TABLE 14

BIOLOGY

Scale	Mean	Standard Deviation	# of Ss
IQ	106.3846	8.5625	13
Theoretical	41.8462	6.9594	13
Economic	44.4615	5.7195	13
Aesthetic	31.6154	5.9294	13
Social	37.3077	7.4149	13
Political	43.1538	5.7495	13
Religious	41.6154	5.9553	13

TABLE 15

BIOLOGY VS. NORMS
N=13 N=174

Scale	Biology	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	2.4718	.8933	2.6282	+3.1030	+1.1807
Theoretical	2.0090	.4857	2.0668	+ .2140	+ .4136
Economic	1.6511	.4790	1.7191	+1.7604	+1.0240
Aesthetic	2.1031	.5532	2.1746	-2.1092	- .9988
Social	2.1405	.5062	2.1995	_ .1664	_ .0704
Political	1.7191	.5237	1.7971	+ .9361	+ .4128

TABLE 16

CHEMISTRY-PHYSICAL SCIENCE-SCIENCE-
PHYSICS & ELECTRONICS

Scale	Mean	Standard Deviation	# of Ss
IQ	107.9500	6.3912	20
Theoretical	44.3500	5.2466	20
Economic	43.5000	6.5153	20
Aesthetic	32.8500	5.8674	20
Social	35.2000	5.2971	20
Political	42.5000	5.9958	20
Religious	41.6000	7.7549	20

TABLE 17

CHEMISTRY-PHYSICAL SCIENCE-SCIENCE-PHYSICS & ELECTRONICS VS. NORMS
N=20 N=174

Scale	Chemistry, etc.	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	1.4663	.8933	1.7169	+4.6684	+2.7191**
Theoretical	1.2037	.4857	1.2979	+2.7178	+2.2096*
Economic	1.4947	.4790	1.5695	+ .7989	+ .5090
Aesthetic	1.3461	.5532	1.4556	- .9546	- .6440
Social	1.2153	.5062	1.3165	-2.2741	-1.7186
Political	1.3756	.4560	1.4492	-1.0718	- .7238
Religious	1.7791	.5237	1.8545	+ .7207	+ .3917

*P is less than .05
**P is less than .01

TABLE 18

DRAFTING

Scale	Mean	Standard Deviation	# of Ss
IQ	99.4000	12.2409	10
Theoretical	46.0000	6.4342	10
Economic	42.4000	5.8855	10
Aesthetic	35.6000	6.7260	10
Social	34.8000	4.9959	10
Political	41.5000	5.3150	10
Religious	39.7000	7.8108	10

TABLE 19

DRAFTING VS. NORMS
N=10 N=174

Scale	Drafting	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	4.0803	.8933	4.1769	-3.8816	- .9293
Theoretical	2.1447	.4857	2.1989	+4.3678	+1.9864*
Economic	1.9618	.4790	2.0194	- .3011	- .1419
Aesthetic	2.2420	.5532	2.3092	+1.7954	+ .7849
Social	1.6653	.5062	1.7405	-2.6741	-1.5298
Political	1.7717	.4560	1.8294	-2.0718	-1.1200
Religious	2.6036	.5237	2.6557	-1.1793	- .4419

*P is less than .05

TABLE 20

HISTORY: U.S., WORLD, & MODERN

Scale	Mean	Standard Deviation	# of SS
IQ	102.8182	12.0965	22
Theoretical	41.6818	7.0672	22
Economic	41.6136	4.0509	22
Aesthetic	31.9545	5.0700	22
Social	37.9318	5.6856	22
Political	47.1364	6.0865	22
Religious	39.6818	7.5957	22

TABLE 21

HISTORY: U.S., WORLD, & MODERN VS. NORMS
N=22 N=174

Scale	History ETC.	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	2.6397	.8933	2.7867	- .4634	- .1663
Theoretical	1.5422	.4857	1.6168	+ .0496	+ .0307
Economic	.8840	.4790	1.0054	-1.0875	-1.0817
Aesthetic	1.1064	.5532	1.2369	-1.8501	-1.4818
Social	1.2407	.5062	1.3399	+ .4577	+ .3502
Political	1.3282	.4560	1.4042	+3.5646	+2.5548*
Religious	1.6575	.5237	1.7190	-1.1975	-.6933

*P is less than .05

TABLE 22

MATH-ALGEBRA-GEOMETRY

Scale	Mean	Standard Deviation	# of Ss
IQ	103.3103	12.7095	29
Theoretical	41.3448	5.2739	29
Economic	43.1379	6.9220	29
Aesthetic	32.2931	6.6378	29
Social	39.0862	5.4647	29
Political	42.7759	5.4033	29
Religious	41.3966	7.4384	29

TABLE 23

MATH-ALGEBRA-GEOMETRY VS. NORMS
N=29 N=174

Scale	Math. etc.	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	2.4019	.8933	2.5626	+ .0292	+ .0112
Theoretical	.9967	.4857	1.1087	- .2874	- .2592
Economic	1.3081	.4790	1.3930	- .4368	- .3136
Aesthetic	1.2544	.5532	1.3709	-1.5115	-1.0900
Social	1.0327	.5062	1.1500	+1.6121	+1.4118
Political	1.0211	.4560	1.1182	- .7959	- .6913
Religious	1.4057	.5237	1.5000	+ .5173	+ .3487

TABLE 24

PSYCHOLOGY-SOCIOLOGY-FAMILY LIVING-GOVERNMENT-ECONOMICS

Scale	Mean	Standard Deviation	# of Ss
IQ	105.6842	10.0998	19
Theoretical	41.4211	6.7999	19
Economic	41.4737	7.0139	19
Aesthetic	31.1842	5.8652	19
Social	37.8158	8.8929	19
Political	45.2368	6.2292	19
Religious	42.9211	6.0439	19

TABLE 25

PSYCHOLOGY-SOCIOLOGY-FAMILY LIVING-
GOVERNMENT-ECONOMICS VS. NORMS
N=19 N=174

Scale	Psychology etc.	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	2.3806	.8933	2.5426	+2.4026	+ .9449
Theoretical	1.6028	.4857	1.6747	- .2111	- .1261
Economic	1.6532	.4790	1.7211	-1.2274	- .7131
Aesthetic	1.3825	.5532	1.4890	-2.6204	-1.7483
Social	2.0960	.5062	2.1563	+ .3417	+ .0132
Political	1.4683	.4560	1.5374	+1.6650	+1.0979
Religious	1.4246	.5237	1.5178	+2.0418	+1.3490

TABLE 26

AUTO MECHANIC, INDUSTRIAL COOPERATIVE TRAINING, DISTRIBUTIVE EDUCATION, TYPING, TEXTILES, AIR CONDITIONING

Scale	Mean	Standard Deviation	# of Ss
IQ	99.4444	12.0106	18
Theoretical	40.6667	5.4029	18
Economic	42.9167	4.9276	18
Aesthetic	33.2500	7.1068	18
Social	37.7500	4.7088	18
Political	43.7778	5.6227	18
Religious	41.6389	6.0363	18

TABLE 27

AUTO MECHANIC, INDUSTRIAL COOPERATIVE TRAINING, DISTRIBUTIVE EDUCATION, TYPING, TEXTILES, AIR CONDITIONING VS. NORMS

N=18 N=174

Scale	Auto. etc.	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	2.9130	.8933	3.0469	-3.8372	-1.2594
Theoretical	1.3104	.4857	1.3974	- .9655	- .6909
Economic	1.1951	.4790	1.2875	+ .2156	+ .1675
Aesthetic	1.7237	.5532	1.8102	-1.5546	- .2969
Social	1.1421	.5062	1.2492	+ .2759	+ .2301
Political	1.3637	.4560	1.4379	+ .2060	+ .1592
Religious	1.4640	.5237	1.5548	+ .7596	+ .4922

TABLE 28

AGRICULTURE-BRICKLAYING-CARPENTRY-PHYSICAL EDUCATION & NONE

Scale	Mean	Standard Deviation	# of Ss
IQ	95.9231	10.2088	13
Theoretical	40.0000	5.8045	13
Economic	44.3077	6.1940	13
Aesthetic	33.9231	5.7305	13
Social	38.0769	9.8408	13
Political	44.1538	6.6895	13
Religious	39.5385	3.9534	13

TABLE 29

AGRICULTURE, BRICKLAYING, CARPENTRY, PHYSICAL EDUCATION & NONE VS. NORMS
N=13 N=174

Scale	Agric. etc.	Norms			
	σ mean	σ mean	σ diff	mean diff	t
IQ	2.9470	.8933	3.0794	-7.3585	-2.3896*
Theoretical	1.6756	.4857	1.7445	-1.6322	- .9356
Economic	1.7881	.4790	1.8511	+1.6066	+ .8679
Aesthetic	1.6543	.5532	1.7445	+ .1185	+ .0770
Social	2.8408	.5062	2.8855	+ .6028	+ .2129
Political	1.9311	.4560	1.9841	+ .5820	+ .3049
Religious	1.1412	.5237	1.2556	+1.3408	+1.0633

*P is less than .05

TABLE 30

OLDEST CHILD

Scale	Mean	Standard Deviation	# of Ss
IQ	104.8971	10.8896	68
Theoretical	42.2206	6.3078	68
Economic	42.8309	5.8513	68
Aesthetic	32.3235	7.3993	68
Social	37.6176	6.8581	68
Political	43.8529	6.1318	68
Religious	41.1691	6.7740	68

TABLE 31

INTERMEDIATE CHILD

Scale	Mean	Standard Deviation	# of Ss
IQ	100.4906	12.3203	53
Theoretical	40.7075	6.1151	53
Economic	41.5566	5.5556	53
Aesthetic	34.7925	6.7635	53
Social	38.3868	5.3443	53
Political	42.8396	5.6726	53
Religious	41.7547	7.3560	53

TABLE 32

YOUNGEST CHILD

Scale	Mean	Standard Deviation	# of Ss
IQ	104.7083	11.6674	48
Theoretical	41.8646	6.9030	48
Economic	43.0625	7.2812	48
Aesthetic	34.6875	7.2353	48
Social	36.3333	7.4809	48
Political	44.5417	5.9411	48
Religious	39.5104	6.4964	48

TABLE 33

ANALYSIS OF VARIANCE:
IQ BY SIBLING RELATIONSHIP

Source	SS	df	MS	F
Between Group	684.5167	2	342.2584	2.5092
Within Group	22642.8253	166	136.4026	
Total	23327.3420	168		

TABLE 34

ANALYSIS OF VARIANCE:
THEORETICAL BY SIBLING RELATIONSHIP

Source	SS	df	MS	F
Between Group	70.9422	2	35.4711	1.1846
Within Group	6974.8438	166	42.0171	
Total	7045.7860	168		

TABLE 35

ANALYSIS OF VARIANCE:
ECONOMIC BY SIBLING RELATIONSHIP

Source	SS	df	MS	F
Between Group	70.4832	2	35.2416	1.1126
Within Group	6508.8618	166	39.2100	
Total	6579.3450	168		

TABLE 36

ANALYSIS OF VARIANCE:
AESTHETIC BY SIBLING RELATIONSHIP

Source	SS	df	MS	F
Between Group	238.4864	2	119.2432	2.2856
Within Group	8660.3595	166	52.1708	
Total	8898.8459	168		

TABLE 37

ANALYSIS OF VARIANCE:
SOCIAL BY SIBLING RELATIONSHIP

Source	SS	df	MS	F
Between Group	107.4077	2	53.7039	1.2050
Within Group	7398.3748	166	44.5685	
Total	7505.7825	168		

TABLE 38

ANALYSIS OF VARIANCE:
POLITICAL BY SIBLING RELATIONSHIP

Source	SS	df	MS	F
Between Group	73.9952	2	36.9976	1.0311
Within Group	5956.5447	166	35.8828	
Total	6030.5399	168		

TABLE 39

ANALYSIS OF VARIANCE:
RELIGIOUS BY SIBLING RELATIONSHIP

Source	SS	df	MS	F
Between Group	135.4384	2	67.7192	1.4027
Within Group	8014.0970	166	48.2770	
Total	8149.5354	168		

TABLE 40

UPPER MIDDLE CLASS

Scale	Mean	Standard Deviation	# of Ss
IQ	108.2000	12.8903	10
Theoretical	39.4000	5.0635	10
Economic	43.6000	7.6837	10
Aesthetic	32.4000	7.4458	10
Social	36.8000	9.9679	10
Political	46.9000	5.4488	10
Religious	41.0000	8.7635	10

TABLE 41

LOWER MIDDLE CLASS

Scale	Mean	Standard Deviation	# of Ss
IQ	107.3243	9.0079	37
Theoretical	41.8514	6.9287	37
Economic	43.7432	5.6805	37
Aesthetic	34.4054	8.0897	37
Social	35.5811	6.6550	37
Political	45.2568	5.7461	37
Religious	39.1622	6.8781	37

TABLE 42

UPPER LOWER CLASS

Scale	Mean	Standard Deviation	# of Ss
IQ	101.9468	11.0650	94
Theoretical	41.8989	7.6717	94
Economic	42.3723	6.3214	94
Aesthetic	33.3138	7.0088	94
Social	37.8138	6.4211	94
Political	43.0798	5.8700	94
Religious	41.5319	6.2832	94

TABLE 43

LOWER LOWER CLASS

Scale	Mean	Standard Deviation	# of Ss
IQ	102.4348	14.3853	23
Theoretical	41.8696	6.3947	23
Economic	41.1739	6.1053	23
Aesthetic	35.1304	7.1707	23
Social	39.5217	5.4923	23
Political	41.8261	6.3083	23
Religious	40.4783	8.6014	23

TABLE 44

ANALYSIS OF VARIANCE:
INTELLIGENCE BY CLASS

Source	SS	df	MS	F
Between Group	1011.1559	3	337.0520	5.7387**
Within Group	9397.3693	160	58.7336	
Total	10408.5252	163		

**P is less than .01

TABLE 45

ANALYSIS OF VARIANCE:
THEORETICAL BY CLASS

Source	SS	df	MS	F
Between Group	57.9931	3	19.3310	.4817
Within Group	6420.7997	160	40.1300	
Total	6478.7928	163		

TABLE 46

ANALYSIS OF VARIANCE:
ECONOMIC BY CLASS

Source	SS	df	MS	F
Between Group	109.7015	3	36.5672	.9148
Within Group	6395.9733	160	39.9748	
Total	6505.6748	163		

TABLE 47

ANALYSIS OF VARIANCE:
AESTHETIC BY CLASS

Source	SS	df	MS	F
Between Group	96.0795	3	32.0265	.5839
Within Group	8776.1753	160	54.8511	
Total	8872.2548	163		

TABLE 48

ANALYSIS OF VARIANCE:
SOCIAL BY CLASS

Source	SS	df	MS	F
Between Group	244.2269	3	81.4090	1.8086
Within Group	7201.8167	160	45.0114	
Total	7446.0436	163		

TABLE 49

ANALYSIS OF VARIANCE:
POLITICAL BY CLASS

Source	SS	df	MS	F
Between Group	309.1133	3	103.0378	2.9061*
Within Group	5672.8931	160	35.4556	
Total	5982.0064	163		

*P is less than .05

TABLE 50

ANALYSIS OF VARIANCE:
RELIGIOUS BY CLASS

Source	SS	df	MS	F
Between Group	152.0397	3	50.6799	1.0224
Within Group	7931.1057	160	49.5694	
Total	8083.1452	163		

TABLE 51

CORRELATION BETWEEN SOCIAL CLASS, INTELLIGENCE, & VALUES

Scale	Social Class
IQ	+ .1828*
Theoretical	- .0216
Economic	+ .1541
Aesthetic	- .0456
Social	- .1919*
Political	+ .2475**
Religious	- .1169

*P is less than .05
**P is less than .01

TABLE 52

PARTIAL CORRELATIONS BETWEEN IQ AND VALUES
WITH SOCIAL CLASS HELD CONSTANT

Scale	IQ
Theoretical	+ .0925
Economic	+ .1175
Aesthetic	- .1205
Social	- .0684
Political	+ .1017
Religious	- .0867

TABLE 53

CORRELATIONS BETWEEN THE VALUES

	Econ.	Aesth.	Social	Polit.	Relig.
Theor.	-.0723	-.2091	-.3226	-.0860	-.2698
Econ.		-.1733	-.5575	+.0146	-.2680
Aesth.			-.1557	-.1380	-.3744
Social				-.3804	+.1450
Relig.					-.2701

TABLE 54

TOP 27% IQ

Scale	Mean	Standard Deviation	# of Ss
Theoretical	43.0000	5.0021	47
Economic	42.8617	7.3402	47
Aesthetic	33.8404	7.4891	47
Social	37.3617	8.5313	47
Political	43.7553	6.8982	47
Religious	39.1809	7.9967	47

TABLE 55

LOWER 27% IQ

Scale	Mean	Standard Deviation	# of Ss
Theoretical	41.4255	7.0855	47
Economic	41.0213	5.4007	47
Aesthetic	35.5319	7.6258	47
Social	38.3191	5.0715	47
Political	42.1702	5.7799	47
Religious	41.5957	5.2470	47

TABLE 56

TOP 27% IQ VS. LOWER 27% IQ

Scale	Top 27%	Lower 27%			
	σ mean	σ mean	σ diff	mean diff	t
Theoretical	.7375	1.0446	1.2787	+1.5745	+1.2313
Economic	1.2558	1.0823	1.8055	+1.8404	+1.3698
Aesthetic	1.1042	1.1244	1.5759	-1.6915	-1.0734
Social	1.2579	.7478	1.4633	- .9574	- .6543
Political	1.0171	.8522	1.3269	+1.5851	+1.1946
Religious	1.1791	.7736	1.4102	-2.4148	-1.7124

TABLE 57

TOP IQ +1.5 σ UP

Scale	Mean	Standard Deviation	# of Ss
Theoretical	44.9000	5.2048	10
Economic	40.2000	8.1460	10
Aesthetic	35.7500	9.3574	10
Social	35.7000	10.4024	10
Political	46.3500	8.7007	10
Religious	37.1000	10.0244	10

TABLE 58

LOWER IQ -1.5 σ DOWN

Scale	Mean	Standard Deviation	# of Ss
Theoretical	44.1667	6.2691	12
Economic	39.3330	3.7046	12
Aesthetic	39.8750	6.0281	12
Social	37.5470	4.7319	12
Political	40.7971	3.1845	12
Religious	38.2917	5.7242	12

TABLE 59

IQ: TOP +1.5σ UP VS. LOWER -1.5σ DOWN

Scale	Top 1.5 σ	Lower 1.5 σ			
	σ mean	σ mean	σ diff	mean diff	t
Theoretical	1.7349	1.8902	2.5656	+ .7331	+ .1114
Economic	2.7153	1.1170	2.9360	+ .8670	+ .2952
Aesthetic	3.1191	1.8176	3.3130	-4.1250	-1.1427
Social	3.4675	1.4267	3.7495	-1.8470	- .4926
Political	2.9002	.9602	3.0550	+5.5583	+1.8194
Religious	3.3415	1.7259	3.7608	-1.1917	- .3169

REFERENCES

Allport, G. W., Vernon, P. E., & Lindzey, G. Study of Values, Manual of Directions, Revised Directions. Boston: Houghton Mifflin, 1951.

Anastasi, A. Differential Psychology: Individual and Group Differences in Behavior. New York: The Macmillan Company, 1958.

Breer, P. E., & Locke, E. A. Task Experience As A Source of Attitudes. The Dorsey Press: Homewood, Illinois, 1965.

Bruning, J. L., & Kintz, B. L. Computational Handbook of Statistics. Scott, Foresman and Company: Glenview, Illinois, 1968.

Bruos, O. K. (Ed.) The Fourth Mental Measurements Yearbook. Highland Park, New Jersey: The Gryphon Press, 1953.

Duffy, E., & Crissy, W. J. E. Evaluative attitudes as related to vocational interests and academic achievement. Journal of Abnormal and Social Psychology, 1940, 35, 226-245.

Jenson, A. R. How much can we boost IQ and scholastic achievement? Harvard Educational Review, 1969, 39, 1-123.

McGurie, C., & White, G. D. The measurement of social status. Research Paper in Human Development No.3 (revised), Department of Educational Psychology: The University of Texas, 1955.

Nolan, E. G., Bram, P., & Tillman, K. Attitude formation in high-school seniors: a study of values and attitudes. The Journal Of Educational Research, 1963, 57 (4), 185-188.

Publicational Manual of the American Psychological Association: 1967 Revision. American Psychological Association, Inc.: 1200 Seventeenth Street, N. W. Washington, D. C., 1967.

Southern, L., & Plant, W. T. Personality characteristics of very bright adults. The Journal of Social Psychology, 1968, 75, 119-126.

Traxler, A., & Vecchione, N. Scores of seniors in six secondary schools on the Allport-Vernon-Lindzey study of values. Educational Records Bulletin, 1959, 74, 75-89. (Psychological Abstracts, 1961, 35, No. 1227).

Warren, J. R., & Heist, P. A. Personality attributes of gifted college students. *Science*, 1960, 132 (August 5), 333-337.